

# **Spectrum Emission Compliance**

Tests were conducted to determine compliance with 47 C.F.R. §73.317(b) through §73.317(d) for W209BX, Tallapoosa, AL FAC# 148550 and W217BT, Tallapoosa, AL FAC# 150669 sharing a common transmit antenna using a transmit combiner.

## **Method Used for Gathering Data**

Signals were measured with a transmitter for each station connected to the proper port of a Telewave Combiner, Serial No. 2729, Model TPCD-1056SP designated for each proper operating frequency. A Bird Wattmeter model 43, serial number 219174 was connected directly between the antenna port of the combiner and the antenna feed line for the antenna system. A Bird 50 dB sample port element 50db 25MHz to 1000MHz was used for obtaining a test signal for making measurements.

The measurement data were gathered using a Rohde & Swartz model FSH3 Spectrum Analyzer, serial number 105325. Program FSH View Utility software was used to transfer the spectrum screen shots from the Rohde & Schwarz Spectrum analyzer via optical USB port to a HP DV6000 notebook computer.

## W209BX 89.7MHz

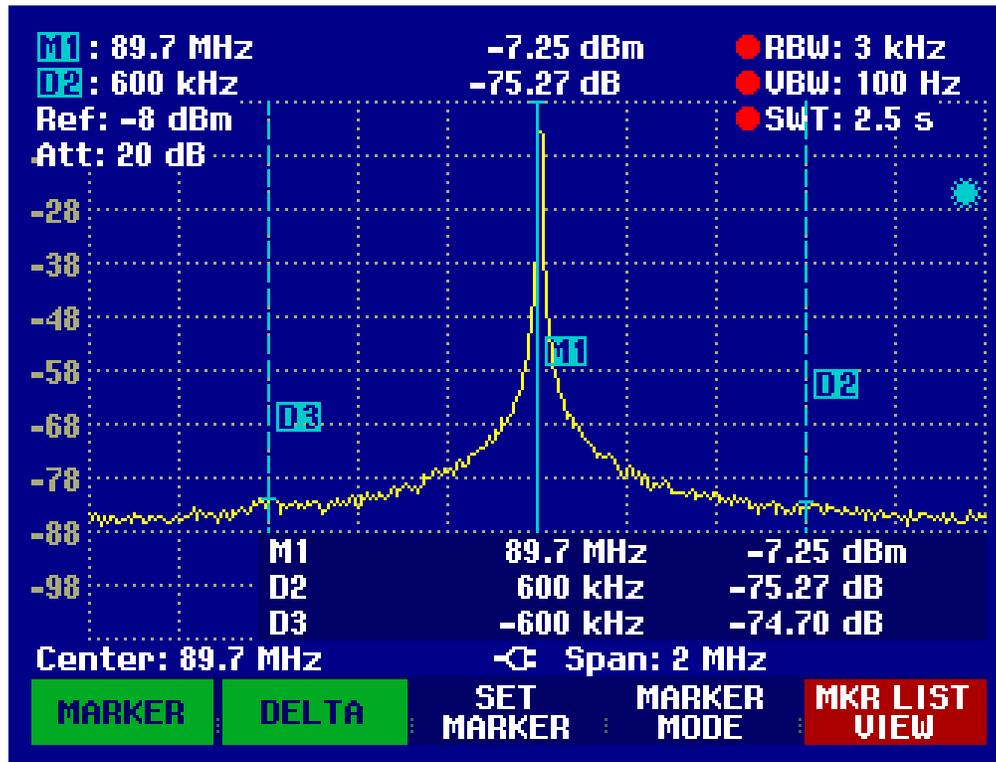


Figure 1 89.7MHz W209BX

According to 47 C.F.R. 73.317(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log<sub>10</sub> (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 + 10 Log<sub>10</sub>(10 Watts) = 43 + 10.0 = 53.0 dB below the unmodulated reference carrier. Refer to Figure 1 above.

## W217BT 91.3MHz

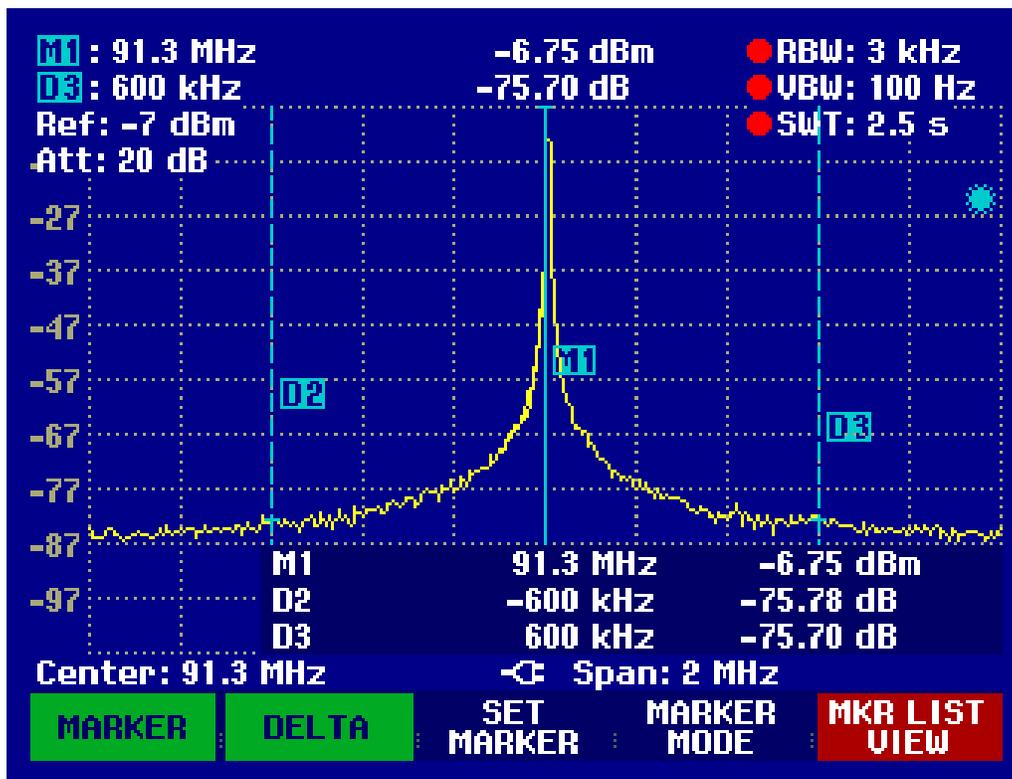


Figure 2 91.3MHz W217BT

According to 47 C.F.R. 73.317(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log<sub>10</sub> (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 + 10 Log<sub>10</sub>(10 Watts) = 43 + 10.0 = 53.0 dB below the unmodulated reference carrier. Refer to Figure 2 above.

## Conclusion

Per §73.317, measurements were made for any spurious emissions at between 120 kHz and 240 kHz either side of the stations operating frequency. Further measurements were made at between 240 kHz and 600 kHz either side of the carrier frequency. These measurements were conducted with no modulation present; and no spurious emissions were noted. Measurements were then made at the second and third harmonic frequencies of the described stations operating frequency. Again, no spurious signals were present. A close scan of Aviation spectrum between 118 MHz & 136 MHz also showed no signs of spurious emissions. A scan of the spectrum, up to and including 500 MHz, was made to look for any other spurious emissions from the W209BX & W217BT combined transmission system; and none could be found.

According to all measurements observed, including but not limited to that presented herein, W209BX & W217BT are in full compliance with all FCC requirements of 47 C.F.R. §73.317(b) through §73.317(d).

## **Certification**

I certify that I personally conducted all measurements and prepared all statements within this document as represented herein and that all such work was done using good engineering practice.

Broadcast Engineer

A handwritten signature in black ink, appearing to read "Victor M. Vickers", written in a cursive style.

Victor M. Vickers